

ARSG MEETING SUMMARY

May 27, 2015

ATTENDEES: Peter Butler, Bill Simon, Steve Fearn, Ty Churchwell, Larry Perino, John Ferguson, Ray Ferguson, Kirstin Brown, Gene Larson, Tim Cutter, Mary Blanchard, Brian Lloyd, Tom Schillaci, Steve Way, Allen Sorenson, Jen Beck, Doug Jamison, Randy Perlis, Mark Esper, Dan Wall, Paula Schmittiel, Cynthia Peterson, Steve Wharton, William Tookey.

ANNOUNCEMENTS: None

Briefs:

1. **Activities Regarding Bullion King:** A contract has been awarded. The only holdups are that a Removal Action Memorandum (RAM) which provides liability protection under CERCLA needs to be approved by EPA (we've done this for all our projects) and the snow needs to melt. Hopefully both will happen in the near future.
2. **EPA Sampling above Howardsville:** EPA delayed sampling above Howardsville because of the May snow storms. They are planning to sample the week of June 8th, although the snow may still keep them from reaching the highest sampling stations. EPA sent letters to about 40 property owners requesting permission to sample on private property. Only one person denied them permission. There were five others that they were unable to reach.
3. **Sunnyside Gold Sampling below Howardsville:** Sunnyside did some intensive sampling along the Animas from just above Arrastra Gulch down to Silverton during the second week of May. They also did some field reconnaissance around the tailings ponds in late May for determining where they might to do some drilling for core samples and possible groundwater monitoring.
4. **Good Samaritan Legislation:** Ty Churchwell reported on TU's efforts. They are putting finishing touches on a website: www.sanjuancleanwater.org which will explain the issue in simple terms and ask people to sign up in support of a legislative fix. The idea is show our congressional representatives that their constituents want to see this issue resolved. No legislation has been introduced. At this point, the plan is to make the legislation a pilot project which would include most of the counties in the San Juan Mountains.
5. **June 27th Tour of Mine Sites in Upper Animas Basin:** The group discussed postponing the tour because of the snow we received in May. We also discussed different sites to visit. Generally, ARSG has avoided conducting tours between 4th of July and Labor Day because there is a lot of traffic on the county roads. Eventually, the group decided to keep the June 27th date and adjust the sites we visit depending on snow levels.

Topics:

6. **Activities Regarding Red & Bonita and Gold King:** Steve Way with EPA and Allen Sorenson with DRMS gave a presentation on installing the Red & Bonita bulkhead this summer. Much of the discussion focused on the location of the fracture zone we call the Bonita fault which may be the source of most of the water. The expectation is that the water level will rise in the fracture zone and possibly express in a new location. The question is where might it surface, how much will surface, and what will be the quality. One possibility is that water will surface

where the North Fork of Cement Creek crossed the fault zone, below the Gold King #7 level. EPA plans on an intensive sampling program at many sites within the vicinity of the Red & Bonita once the bulkhead valve is closed. Work will begin in a few weeks. Closure is expected in early fall. The process will be reversible if need be because the valve can be re-opened.

The first step for installing the bulkhead is to muck out the sludge in the tunnel back to the bulkhead site. The sludge will be caught and treated in a system directly below the mine. (As a side note, Allen mentioned that last year when the mine was explored, they found evidence of check dams and diversions indicating that at some point, the miners were dealing with water in the mine workings.) Once this step has been completed, the contractor will start to open up the Gold King #7 level. There is a pool of water several feet deep behind the collapsed portal. The treatment system at the Red & Bonita will be used to handle the water and muck from the Gold King as work begins there. EPA is willing to remove the initial blockage into the Gold King, but if there is another collapse farther in, they may not want to expend the resources to open it up.

7. S. Mineral and Durango Macroinvertebrate Studies: Scott Roberts (used to be with Ecosphere, now with Mountain Studies Institute) presented results of macroinvertebrate studies on South Mineral and Mineral Creeks. ARSG hired Scott to do the work because some earlier studies had shown a decline in macroinvertebrates.

Scott collected bugs from above and below the Bandora in South Mineral, above and below where Clear Lake Creek comes in with very high quality water and near the confluence with Mineral Creek. In Mineral Creek, he collected from below the confluence and down by the gage (M34) at Silverton.

He presented a wide range of metrics he had used for analysis. The analysis seemed to correlate quite well with what we might expect the relative water quality to be at these different locations. The metrics had improved in South Mineral since that last survey several years ago that had suggested a worsening trend. Bug metrics have declined somewhat in Mineral Creek. Our existing bug data has been collected every few years, not on a particular schedule. Over the years, the metrics move up and down, but environmental and seasonal variations can be expected to result in metric variability. To determine the causation, much more data taken at shorter intervals would be required. We need to decide if such an effort would be worthwhile.

Scott also discussed results of macroinvertebrate studies he recently did for Trout Unlimited in Durango. The trout fishery, particularly the large trout, has been in decline there over recent years. Scott's work showed the bugs are doing quite well and have not showed the same decline. TU is now collecting temperature data in Durango to see if that may be impacting the trout. All aquatic life water quality standards for metals are met in Durango.

8. Updates to ARSG Database and Analysis: Peter showed some more graphs of water quality data from 2014, comparing metal concentrations at the Howardsville gage to A68 (in Silverton). In March and April, metal concentrations at A68 can peak at five times higher for zinc, 10 times higher for cadmium, and 20 times higher for manganese than at Howardsville, indicating that most of the metal load enters the river below Howardsville. In summer, more of the zinc and cadmium load comes from upstream of Howardsville.

The high peak concentrations in spring at A68 are much higher than the chronic water quality standards for those metals. Zinc and cadmium levels remain above standards throughout the year even when concentrations drop. Manganese is below the standard except during the high spring peak.

Peter also examined if water quality standards are met at Bakers Bridge. He found that over the last eight years zinc, cadmium, and aluminum do not meet standards. Iron barely exceeds standards as well.

Peter also asked for people to review the graph analyses so they can be finalized through 2014. Steve Fearn and Larry Perino offered to help. Dan Wall with EPA later offered in an email. Peter also wants a review of all the water quality data from 2012-2014 from various sources which he has put into the ARSG format so that it can be added to the website database.

There will be no meeting in June. Our July meeting is scheduled for the fourth Tuesday which is the 28th. Because people may be working in the field during the day, we may try an evening meeting.

Possible Agenda Items for Next Meeting:

Red & Bonita and Gold King
Upcoming WQCC Hearings regarding Animas
Koehler Bulkhead Valve
Bullion King
Arrastra Gulch